IN THE CLAIMS

Kindly amend the claims as follows:

1. (CURRENTLY AMENDED) An expandable spacer, comprising:

an axial tube having a surface, a proximal end, a distal end and a length,

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said surface and define a geometry of an expanded spacer; and

a locking element adapted to axially lock said spacer when axially compressed, to prevent axial expansion thereof.

2. (ORIGINAL) A spacer according to claim 1, wherein said at least two axially displaced extensions comprises at least three extensions, which three extensions extend in at least three different directions from said tube.

3. (ORIGINAL) A spacer according to claim 1, wherein said at least two axially displaced extensions comprises at least four extensions, which four extensions extend in at least four different directions from said tube.

4. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said slits are straight.

5. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said slits are curved.

6. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said slits are defined by a cut in said tube.

7. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said slits are defined by a section removed from said tube.

8. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said slits are substantially parallel to said tube axis.

9. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said slits are not parallel to said tube axis.

10. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said slits are arranged in pairs of same length.

11. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said slits are arranged in pairs of different lengths.

12. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein slits associated with one extension axially overlap slits associated with a second, axially displaced, extension.

13. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said proximal end of said tube defines a proximal end-cap, which end-cap extends outside of a volume defined by the geometry of said extended extensions.

14. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said distal end of said tube defines a distal end-cap, which end-cap extends outside of a volume defined by the geometry of said extended extensions.

15. (ORIGINAL) A spacer according to claim 13, wherein at least one of said extensions is flush with said proximal end of said tube.

16. (ORIGINAL) A spacer according to claim 13, wherein at least one of said extensions is flush with said distal end of said tube.

17. (PREVIOUSLY PRESENTED) A spacer according to claim 1, comprising at least one spur axially extending from said spacer, to engage tissue adjacent said spacer.

18. (ORIGINAL) A spacer according to claim 17, wherein said at least one spur comprises at least two spurs axially extending from said spacer.

19. (PREVIOUSLY PRESENTED) A spacer according to claim 1, comprising an inner bolt.

20. (ORIGINAL) A spacer according to claim 19, wherein said inner bolt has a smooth exterior.

21. (ORIGINAL) A spacer according to claim 19, wherein said inner bolt has a threaded exterior.

22. (CURRENTLY AMENDED) A spacer according to claim 19, wherein said bolt has a base, which base has an external diameter greater than an inner diameter of said tube, such that said base restricts axial motion of the tube in one direction relative to the bolt.

23. (PREVIOUSLY PRESENTED) A spacer according to claim 19, wherein said bolt has a head, which head locks against at least one end of said tube, to prevent axial expansion of said tube.

24. (ORIGINAL) A spacer according to claim 23, wherein said head is adapted to engage at least one protrusions extending from said tube toward said bolt head.

25. (ORIGINAL) A spacer according to claim 23, wherein said head comprises at least one protrusions extending from said head toward said tube, to engage said tube.

26. (ORIGINAL) A spacer according to claim 23, wherein said head comprises a flange, flared to have an outer diameter greater than an inner diameter of said tube.

27. (PREVIOUSLY PRESENTED) A spacer according to claim 19, wherein said bolt is adapted to engage a pole element for holding said bolt during deployment of said spacer.

28. (ORIGINAL) A spacer according to claim 27, wherein said bolt has an inner thread for engaging said pole element.

29. (ORIGINAL) A spacer according to claim 27, wherein said bolt mechanically engages said pole element as long as a head of said bolt is constrained by said tube.

30. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer comprises a plurality of segments, each segment defining one or more extensions that extend from said spacer.

31. (ORIGINAL) A spacer according to claim 30, wherein said segments comprises at least two segment types, each segment type defining extensions that extend in different directions relative to said tube.

32. (ORIGINAL) A spacer according to claim 31, wherein said two segment types comprises a horizontal segment defining two extensions that extend along a line and a segment defining four extensions that extend at about ±45° to said two extensions.

33. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein an extension direction of at least one of said at least two extensions is normal to said tube.

34. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein an extension direction of at least one of said at least two extensions defines a sharp angle with said tube axis, in a plane containing said tube axis.

35. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said at least two extensions does not extend along a direction perpendicular to said tube.

36. (CURRENTLY AMENDED) A spacer according to claim 1, wherein at least one of said at least two extensions has, in a plane containing said tube axis, a profile of a triangle, with a triangle [[the]] tip pointed away from said tube.

37. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said at least two extensions has, in a plane containing said tube axis, a curved profile.

38. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said at least two extensions has, in a plane containing said tube axis, a profile that narrows and then widens, along a direction away from the tube.

39. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said at least two extensions has, in a plane perpendicular to said tube axis, a profile that narrows, along a direction away from the tube.

40. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said at least two extensions has, in a plane perpendicular to said tube axis, a profile that narrows and then widens, along a direction away from the tube.

41. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said at least two extensions has, in a plane perpendicular to said tube axis, a uniform profile.

42. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said at least two extensions has, a pointed top profile.

43. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said at least two extensions has, a top profile substantially the same size as a base of said extension.

44. (CURRENTLY AMENDED) A spacer according to claim 1, wherein at least one of said at least two extensions has, a top profile substantially [[the]] larger [[that]] than a base of said extension.

45. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said extensions are unevenly distributed along said axis.

46. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said extensions are evenly distributed along said axis.

47. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said extensions are unevenly distributed along a circumference of said tube.

48. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said extensions are evenly distributed along a circumference of said tube.

49. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said different ones of said extensions have different geometries.

50. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said extensions are distributed in a spiral pattern.

51. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube axis is coaxial with an axis of said expanded geometry.

52. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube axis is parallel to an axis of said expanded geometry.

53. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube axis is not-parallel to an axis of said expanded geometry.

54. (ORIGINAL) A spacer according to claim 53, wherein said tube axis and said expanded geometry axis are designed for oblique insertion of a spacer to be aligned, in its expanded state with vertebra.

55. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer has an expanded geometry cross-section of a circle.

56. (CURRENTLY AMENDED) A spacer according to claim 1, wherein said spacer has an expanded geometry trans-axial cross-section of a rectangle.

57. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein a cross-section of said expanded geometry varies along an axis of said expanded geometry.

58. (CURRENTLY AMENDED) A spacer according to claim 1, wherein a trans-axial cross-section diameter of said expanded geometry varies along an axis of said expanded geometry.

59. (ORIGINAL) A spacer according to claim 58, wherein said cross-section is rectangular and wherein said cross-sectional diameter increases along said expanded geometry axis.

60. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein a cross-section diameter of said tube varies along an axis of said tube.

61. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein a cross-section of said tube varies along an axis of said tube.

62. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube has a circular cross-section.

63. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube has an elliptical cross-section.

64. (CURRENTLY AMENDED) A spacer according to claim 1, wherein said tube has a rectangular trans-axial cross-section.

65. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube axis is bent, when the spacer is unexpanded.

66. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube axis is straight when the spacer is unexpanded.

67. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube axis is bent when the spacer is expanded.

68. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said tube axis is straight when the spacer is expanded.

69. (PREVIOUSLY PRESENTED) A spacer according to claim 1, comprising a ratchet mechanism to maintain said spacer in an expanded configuration.

70. (PREVIOUSLY PRESENTED) A spacer according to claim 1, comprising at least one portion of said spacer that prevents axial contraction of said spacer.

71. (ORIGINAL) A spacer according to claim 70, wherein said at least one portion comprises a pair of tabs that abut when the spacer is axially contracted.

72. (ORIGINAL) A spacer according to claim 70, wherein said at least one portion comprises a strip that folds and forms a thickness between two opposing sides of said spacer, preventing the opposing sides from meeting.

73. (PREVIOUSLY PRESENTED) A spacer according to claim 1, comprising at least one protrusion on at least one of said extensions, to prevent collapsing of said extension.

74. (PREVIOUSLY PRESENTED) A spacer according to claim 1, comprising at least one protrusion on at least one of said extensions, to interlock said two extensions.

75. (PREVIOUSLY PRESENTED) A spacer according to claim 1, comprising at least one interconnecting element for interconnecting said extensions when the extensions are expanded.

76. (ORIGINAL) A spacer according to claim 75, wherein said interconnecting element comprises a flexible wire.

77. (ORIGINAL) A spacer according to claim 75, wherein said interconnecting element comprises a substantially rigid strut.

78. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said extensions comprises only bending joints.

79. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said extensions comprises at least one twisting joint.

80. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said extensions comprises a lift-up-extension in which a significant axial section of the tube is lifted away from said tube to form said expanded geometry.

81. (CURRENTLY AMENDED) A spacer according to claim 1, wherein at least one of said extensions comprises at least two legs that are coupled by [[a]] an extension top.

82. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said extensions comprises at least three legs that are coupled by a extension top.

83. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said extensions comprises at least four legs that are coupled by a extension top.

84. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said extensions comprises at least two legs, which legs are aligned with the tube axis.

85. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein a plurality of annealed locations are provided on said spacer to assist in expansion of said spacer.

86. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein a plurality of etched locations are provided on said spacer to assist in expansion of said spacer.

87. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein a plurality of holes are provided on said spacer to assist in expansion of said spacer.

88. (ORIGINAL) A spacer according to claim 87, wherein said holes distribute stress in said spacer.

89. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is annealed as a unit.

90. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer comprises means for changing the axial length of the spacer over time, after the spacer is implanted.

91. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is formed of metal.

92. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is formed of plastic.

93. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is formed of a combination of distinct zones of different materials.

94. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer comprises an elastic material, which is elastically deformed by the extension deformation.

95. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer comprises a plastic material, which is plastically deformed by the extension deformation.

96. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer comprises a super-elastic material, which is super-elastically deformed by the extension deformation.

97. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer comprises a shape-memory material.

98. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is adapted to be axially deformed under axial pressures of over 20 Kg.

99. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is adapted to be axially deformed under axial pressures of over 30 Kg.

100. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is adapted to be axially deformed under axial pressures of over 50 Kg.

101. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is adapted to be axially deformed under axial pressures of over 70 Kg.

102. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is adapted to be axially deformed under axial pressures of over 90 Kg.

103. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is adapted to remain expanded in a vertebra of an active human, when placed with the tube axis perpendicular to a spine of said human.

104. (CURRENTLY AMENDED) A spacer according to claim 1, wherein said tube has a cross-sectional diameter smaller than ~~2 times~~half the maximal cross-sectional diameter of said expanded geometry.

105. (CURRENTLY AMENDED) A spacer according to claim 1, wherein said tube has a cross-sectional diameter smaller than ~~4 times~~a quarter of the maximal cross-sectional diameter of said expanded geometry.

106. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said expanded geometry is sized to fit between two human vertebrae.

107. (CURRENTLY AMENDED) A spacer according to claim 1, wherein said expanded spacer geometry defines a contact surface with a target vertebra, wherein said extensions have tips and wherein said tips ~~lie on said contact surface and~~ cover at least 20% of said contact surface.

108. (CURRENTLY AMENDED) A spacer according to claim 1, wherein said expanded spacer geometry defines a contact surface with a target vertebra, wherein said extensions have tips and wherein said tips ~~lie on said contact surface and~~ cover at least 40% of said contact surface.

109. (CURRENTLY AMENDED) A spacer according to claim 1, wherein said expanded spacer geometry defines a contact surface with a target vertebra, wherein said extensions have tips that contact a surface of the target vertebra and wherein said tips cover at least 60% of said contact surface.

110. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said expanded geometry covers at least 40% of the surface of a target vertebra, previously contacting a disc.

111. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said expanded geometry covers at least 60% of the surface of a target vertebra, previously contacting a disc.

112. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said expanded geometry covers at least 80% of the surface of a target vertebra, previously contacting a disc.

113. (CURRENTLY AMENDED) A spacer, comprising:

an elongate body having a surface and having a maximum trans-axial cross-section at a portion thereof; and

a plurality of at least [[two]] three axially displaced extensions radially extending from said body,

wherein, said extensions are axially dense on at least 40% of said body, including said portion, said axial density being such that at least 50% of a surface area of an axially dense portion of said body is covered by extensions, wherein said dense extensions define a trans-axial cross-section having a diameter at least two times a diameter of said body cross-section without the extensions, and wherein said extensions are formed of said surface.

114. (ORIGINAL) A spacer according to claim 113, wherein said extensions are dense on at least 50% of said body.

115. (ORIGINAL) A spacer according to claim 113, wherein said extensions are dense on at least 70% of said body.

116. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is coated with a bio-active coating.

117. (ORIGINAL) A spacer according to claim 116, wherein said bio-active coating retards bone ingrowth.

118. (ORIGINAL) A spacer according to claim 116, wherein said bio-active coating promotes bone ingrowth.

119. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said extensions comprises spikes.

120. (CURRENTLY AMENDED) A spacer according to claim 1, wherein at least one of thean extensions is designed to carry greater stress and has an increased strength over another extension.

121. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer has an angular orientation.

122. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least two of said at least two extensions are designated to hold apart two vertebra.

123. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein said spacer is lordotic.

124. (PREVIOUSLY PRESENTED) A spacer according to claim 1, wherein at least one of said extensions is adapted to embed in vertebral bone.

125. (CURRENTLY AMENDED) An expandable spacer, comprising:

an axial tube having a surface, a proximal end, a distal end and a length;

wherein, said surface defines a plurality of axially displaced slits, said plurality of slits defining at least two axially displaced extensions, such that when said tube is axially compressed, said extensions extend out of said surface and define a geometry of an expanded spacer; and

wherein said spacer is adapted to withstand without collapsing, in a radially expanded configuration thereof, spinal forces applied in a direction radial to the spacer.

126. (PREVIOUSLY PRESENTED) A method of spacing cortical bone, comprising:

inserting a spacer in a radially compressed and axially expanded configuration between two cortical bone areas;

first radially expanding at least a first part of said spacer to extend a plurality of extensions, at least some of said plurality of extensions pushing against one or the other of said cortical bone areas, said radially expanding being provided by axial compressing of said spacer; and

second radially expanding at least a second part of said spacer after said first radially expanding, to extend a plurality of extensions, at least some of said plurality of extensions pushing against one or the other of said cortical bone areas, said radially expanding being provided by further axial compressing of said spacer.

127. (PREVIOUSLY PRESENTED) A method according to claim 126, comprising locking said spacer in a radially expanded and axially shortened configuration.

128. (PREVIOUSLY PRESENTED) A method according to claim 127, wherein said locking comprises locking after completing radially expanding of said spacer.

129. (PREVIOUSLY PRESENTED) A method according to claim 127, wherein said locking comprises self-locking of said spacer.

130. (PREVIOUSLY PRESENTED) A method according to claim 127, wherein said locking comprises locking opposite ends of said spacer.

131. (PREVIOUSLY PRESENTED) A method according to claim 126, comprising leaving said spacer adjacent said cortical areas, for at least a day.

132. (PREVIOUSLY PRESENTED) A method according to claim 126, comprising removing said spacer during a same surgical procedure as said inserting.

133. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said first radially expanding comprises extending an extension to be substantially perpendicular to said spacer and have a length, perpendicular to said spacer, greater than a width, along said spacer.

134. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said first radially expanding comprises extending at least one extension which does not contact cortical bone.

135. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said first radially expanding and said second radially expanding comprise radially expanding substantially an entire length of said spacer.

136. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said first radially expanding results in a first radial diameter for said spacer and wherein said second radially expanding results in a second, different, radial diameter for said spacer.

137. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said inserting comprises inserting into a bone.

138. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said inserting comprises inserting into a spinal region.

139. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said inserting comprises inserting between bones.

140. (PREVIOUSLY PRESENTED) A method according to claim 139, wherein said inserting comprises inserting between vertebra.

141. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said first radially expanding modifies a bone structure.

142. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said first radially expanding comprises plastically distorting said spacer.

143. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said first radially expanding comprises self-distorting of said spacer.

144. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said inserting comprises inserting said spacer over an inner element.

145. (PREVIOUSLY PRESENTED) A method according to claim 126, comprising filling a space between said bone areas with a filler material.

146. (PREVIOUSLY PRESENTED) A method according to claim 126, comprising inserting a biodegradable balloon into a space between said bone areas.

147. (PREVIOUSLY PRESENTED) A method according to claim 126, wherein said second radially expanding is performed after said first radially expanding is completed.

148. (NEW) A spacer according to claim 1, wherein said at least two axially displaced extensions comprises at least three displaced extensions, which three extensions extend in a same transaxial direction from said tube.

149. (NEW) A spacer according to claim 125, wherein said at least two axially displaced extensions comprises at least three axially displaced extensions, which three extensions extend in a same transaxial direction from said tube.